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February 8, 2005

Ms. Tammy Koontz, Program Manager and Mr. Shelby Pittman
Office of Publications, Pre-Grant Publication Division
United States Patent and Trademark Office
2231 Crystal Drive, Ste. 905
Arlington, VA 22202

App. No.	**:**	**10/709,889**	**Confirmation No. 3888**
Publication No.	**:**	**US 2004/0244695**	
Applicant	**:**	**Manabu Hashikura, et al.**	
Filed	**:**	**June 3, 2004**	

REQUEST FOR CORRECTED PATENT APPLICATION PUBLICATION

Dear Ms. Koontz and Mr. Pittman:

This constitutes a request that the publication of the above-identified application be corrected to replace numerous instances of garbled text with the legible text as originally filed.

The application was published on December 9, 2004, and therefore the publication date is not older than two months.

Attached is a set of pages containing affected paragraphs from the publication version of this application, side-by-side with the corresponding paragraphs from the original application. The publication version is in the left-hand column, and the original version is in the right-hand column to allow for a ready comparison between the two versions.

To provide a listing of specific and detailed items for which correction is requested, the garbled or incorrect text is circled in the left-hand column, and the correct, original text is circled in the right-hand column.

The errors appear in the description section. Applicant believes the errors to be material to appreciating the technical disclosure of the invention in this application, and to determining the scope of the claims as filed.

Sincerely,

James W. Judge

James W. Judge
Registration No. 42,701

Attachment

Paragraph [0027]	
[0027] It is preferable that the planarity of the processed-object retaining face of the ceramic-metal composite be within 500 □m and that the microroughness be 3 □m (Ra), because this enables the processed object to be heated uniformly and the temperature distribution in the front side of the processed object be brought to within ± 1.0%.	[0027] It is preferable that the planarity of the processed-object retaining face of the ceramic-metal composite be within 500 μm and that the microroughness be 3 μm (Ra), because this enables the processed object to be heated uniformly and the temperature distribution in the front side of the processed object be brought to within ± 1.0%.
Paragraph [0048]	
[0048] Embodiment One - Commercially available ceramic-metal composites of 400 mm diameter, 10 mm thickness and made of $Al - Al_2O_3$ were readied. The processed-object retaining faces of the ceramic-metal composites were polished to finish the retaining face to a planarity of 0.03 mm and a microroughness of 0.7 □m (Ra). The water absorption ratio of the ceramic-metal composites was 0.00%. The Young's modulus, thermal expansion coefficient (□) and thermal conductivity (□) of the composites are set forth in Table I.	[0048] Embodiment One - Commercially available ceramic-metal composites of 400 mm diameter, 10 mm thickness and made of $Al - Al_2O_3$ were readied. The processed-object retaining faces of the ceramic-metal composites were polished to finish the retaining face to a planarity of 0.03 mm and a microroughness of 0.7 μm (Ra). The water absorption ratio of the ceramic-metal composites was 0.00%. The Young's modulus, thermal expansion coefficient (α) and thermal conductivity (κ) of the composites are set forth in Table I.
Paragraph [0051]	
[0051] The thermal expansion coefficient (□) and thermal conductivity (□) of each of the ceramic susceptors are set forth in Table II.	[0051] The thermal expansion coefficient (α) and thermal conductivity (κ) of each of the ceramic susceptors are set forth in Table II.

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<table>
<tr><th colspan="2">Paragraph [0056]</th></tr>
<tr>
<td>[0056]
TABLE II
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<tr><th>Heater substance</th><th>□(× 10^{-6}/°C)</th><th>□(W/mK)</th></tr>
<tr><td>Al_2O_3</td><td>7.8</td><td>29</td></tr>
<tr><td>AlN</td><td>4.6</td><td>165</td></tr>
<tr><td>SiC</td><td>4.0</td><td>179</td></tr>
</table>
</td>
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</td>
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<tr><th colspan="2">Paragraph [0061]</th></tr>
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<td>[0061] Embodiment Four - Apart from having the material of the ceramic-metal composites be Si – Al_2O_3 , Si – AlN, and Si – SiC, respectively, and from making the resistive heating element tungsten, holders like those of Embodiment 1 were fabricated, and the same evaluations as in Embodiment 1 were made. The temperature uniformity was with the temperature being 800 ° C, and the cycling test was 500 heat-up/cool-down cycles between room temperature and 800 ° C. The results are set forth in Table V. Here, the holders were finished to a planarity of 0.03 mm and a microroughness of 0.7(□m)(Ra). The pump-down time to 1.3 Pa with every one of the materials was the same 5-minute interval as in Embodiment 1. In addition, in Table VI the Young's modulus, thermal expansion coefficient (□) and thermal conductivity (□) of the composites utilized are set forth.</td>
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</table>

Paragraph [0062]

[0062]
TABLE VI

Heater substance	Young's modulus(GPa)	□(×10⁻⁶/°C)	□(W/mK)
Si-Al_2O_3	265	7.0	106
Si-AlN	270	4.5	167
Si-SiC	280	2.8	175

[0062]
TABLE VI

Heater substance	Young's modulus(GPa)	α(×10⁻⁶/°C)	κ(W/mK)
Si-Al_2O_3	265	7.0	106
Si-AlN	270	4.5	167
Si-SiC	280	2.8	175

Paragraph [0063]

[0063] Embodiment Five - Holders were created by readying the same 400-mm diameter, 10-mm thickness Si – SiC composites as in Embodiment 4, and combining ceramic susceptors together with the holders likewise as with Embodiment 1. After support parts in the manner of Embodiment 1 were joined to the holders, a thin SiO_2 film 10, as represented in Fig. 6, of some 30□m thickness was thermal-spray coated over the entire surface of the holder and support part. The holders underwent the same temperature-uniformity evaluation and thermal cycling test at 800 ° C as in Embodiment 4. The results are set forth in Table VII.

[0063] Embodiment Five - Holders were created by readying the same 400-mm diameter, 10-mm thickness Si – SiC composites as in Embodiment 4, and combining ceramic susceptors together with the holders likewise as with Embodiment 1. After support parts in the manner of Embodiment 1 were joined to the holders, a thin SiO_2 film 10, as represented in Fig. 6, of some 30 μm thickness was thermal-spray coated over the entire surface of the holder and support part. The holders underwent the same temperature-uniformity evaluation and thermal cycling test at 800 ° C as in Embodiment 4. The results are set forth in Table VII.

Paragraph [0066]

[0066] Embodiment Seven - The same Si – SiC composites as well as AlN ceramic susceptors as those utilized in Embodiment 4 were readied. The planarity and microroughness of the retaining faces of the Si – SiC composites were finished to the values set forth in Table IX. These Si – SiC composites and AlN ceramic susceptors were utilized to structure, in the same way as in Embodiment 5, the net form in Fig. 6. These holders underwent the same temperature-uniformity evaluation and thermal cycling test at 800 ° C as in Embodiment 5. The results are set forth in Table IX. Here, likewise as with Embodiment 1 pump-down reached 1.3 Pa (0.01 torr) in a 5-minute interval.

TABLE IX

No.	Holder surface planarity(mm)	Holder surface microroughness R_a (nm)	Temp. uniformity ± (%)	Cycling test
33	0.03	0.7	0.1	0
40	0.10	0.7	0.2	0
41	0.50	0.7	0.3	0
42	0.60	0.7	0.9	0
43	0.03	1.0	0.3	0
44	0.03	3.0	0.4	0
45	0.03	5.0	1.0	0

[0066] Embodiment Seven - The same Si – SiC composites as well as AlN ceramic susceptors as those utilized in Embodiment 4 were readied. The planarity and microroughness of the retaining faces of the Si – SiC composites were finished to the values set forth in Table IX. These Si – SiC composites and AlN ceramic susceptors were utilized to structure, in the same way as in Embodiment 5, the net form in Fig. 6. These holders underwent the same temperature-uniformity evaluation and thermal cycling test at 800 ° C as in Embodiment 5. The results are set forth in Table IX. Here, likewise as with Embodiment 1 pump-down reached 1.3 Pa (0.01 torr) in a 5-minute interval.

TABLE IX

No.	Holder surface planarity(mm)	Holder surface microroughness R_a (μm)	Temp. uniformity ± (%)	Cycling test
33	0.03	0.7	0.1	0
40	0.10	0.7	0.2	0
41	0.50	0.7	0.3	0
42	0.60	0.7	0.9	0
43	0.03	1.0	0.3	0
44	0.03	3.0	0.4	0
45	0.03	5.0	1.0	0

Paragraph [0067]	
[0067] It will be understood from Table IX that bringing the planarity of the retaining face to within 0.5 mm enables the retaining-face temperature uniformity to be brought within ±0.5%. In turn, making the microroughness of the retaining face 3 □m allows the retaining-face temperature uniformity to be brought within ±1.0%.	[0067] It will be understood from Table IX that bringing the planarity of the retaining face to within 0.5 mm enables the retaining-face temperature uniformity to be brought within ±0.5%. In turn, making the microroughness of the retaining face 3 μm allows the retaining-face temperature uniformity to be brought within ±1.0%.